

# 2SA1531, 2SA1531A

Silicon PNP epitaxial planer type

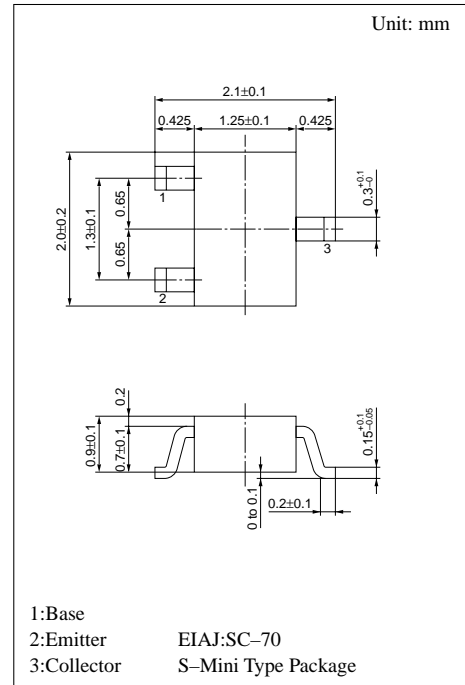
For low-frequency and low-noise amplification  
Complementary to 2SC3929 and 2SC3929A

**Features**

- Low noise voltage NV.
- High forward current transfer ratio  $h_{FE}$ .
- S-Mini type package, allowing downsizing of the equipment and automatic insertion through the tape packing and the magazine packing.

**Absolute Maximum Ratings** ( $T_a=25^\circ\text{C}$ )

Parameter	Symbol	Ratings	Unit
Collector to base voltage	$V_{CB0}$	2SA1531 -35	V
2SA1531A -55			
Collector to emitter voltage	$V_{CEO}$	2SA1531 -35	V
2SA1531A -55			
Emitter to base voltage	$V_{EBO}$	-5	V
Peak collector current	$I_{CP}$	-100	mA
Collector current	$I_C$	-50	mA
Collector power dissipation	$P_C$	150	mW
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 ~ +150	$^\circ\text{C}$



Marking symbol : F(2SA1531)  
H(2SA1531A)

**Electrical Characteristics** ( $T_a=25^\circ\text{C}$ )

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	$I_{CB0}$	$V_{CB} = -10\text{V}, I_E = 0$			-100	nA
	$I_{CEO}$	$V_{CE} = -10\text{V}, I_B = 0$			-1	$\mu\text{A}$
Collector to base voltage	$V_{CB0}$	$I_C = -10\mu\text{A}, I_E = 0$	2SA1531 -35			V
			2SA1531A -55			
Collector to emitter voltage	$V_{CEO}$	$I_C = -2\text{mA}, I_B = 0$	2SA1531 -35			V
			2SA1531A -55			
Emitter to base voltage	$V_{EBO}$	$I_E = -10\mu\text{A}, I_C = 0$	-5			V
Forward current transfer ratio	$h_{FE}^{*1}$	$V_{CE} = -5\text{V}, I_C = -2\text{mA}$	180		700	
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = -100\text{mA}, I_B = -10\text{mA}^{*2}$			-0.6	V
Base to emitter voltage	$V_{BE}$	$V_{CE} = -1\text{V}, I_C = -100\text{mA}^{*2}$		-0.7	-1.0	V
Transition frequency	$f_T$	$V_{CB} = -10\text{V}, I_E = 2\text{mA}, f = 200\text{MHz}$		80		MHz
Noise voltage	NV	$V_{CE} = -10\text{V}, I_C = -1\text{mA}, G_V = 80\text{dB}$ $R_g = 100\text{k}\Omega, \text{Function} = \text{FLAT}$			150	mV

<sup>\*1</sup> $h_{FE1}$  Rank classification

<sup>\*2</sup> Pulse measurement

Rank	R	S	T
$h_{FE}$	180 ~ 360	260 ~ 520	360 ~ 700
Marking	2SA1531 FR	FS	FT
Symbol	2SA1531A HR	HS	HT

